THE VETERINARY RECORD

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Edited by William Hunting, F.R.C.V.S.

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Swine Fever and the Board of Agriculture.

Last week we noticed the work of the chief veterinary officer, which forms the first part of the Annual Report of "Proceedings under the Diseases of Animals Act, &c." The publication should of course be called the "The Veterinary Report," but is not, because it would invite public attention to the fact that half the matter is contributed by a man who is not a veterinarian, and who possesses no medical knowledge.

The only reference in the Report to the disease which occupies the greater part of the duties of the Board's officers—swine fever—is made by Major Tennant,a retired army officer. Such a thing as this would not be permitted in any other country than Britain, and its occurrence here is a departmental scandal. The report refers to events which mostly happened twelve to eighteen months since, and it is pitiful, in the face of more recent facts, to find tables printed to show how the figures might "be regarded as a satisfactory indication that some useful progress has been made" towards stamping out swine fever. We know that the disease is just as rampant as ever, and that any little appearance of "progress" in 1900 has been succeeded by utter failure in 1901.

The whole of "The Assistant Secretary's" report is explanatory and evasive. It commences by a reference to the number of "reports of suspected swine-fever received by the Board" and notes a great reduction. These reports are sent by the police, and mean very little. When the owner of a pig notices any illness in the animal and is unable to account for it he thinks it may be swine-fever. He knows that if it is he may be fined for not reporting it, and consequently all sorts of diseases are reported to the police. Now diagnosis of swine-fever, like diagnosis of typhoid fever in man, is not easy. The human disease is diagnosed by the best medical practitioners about the second week of its course, and the animal disease is just as difficult to recognise with certainty. Will it be believed that the diagnosis is often left to "the discretion which chief constables now allow their officers to assume?" These words are Major Tennant's, and although he states that this discretion "has been usefully exercised" we venture to think that when it is quite understood what is meant, the swine-owner and the tax payer will object. The owner of pigs sees some illness, he reports to the police and a police constable calls, examines the pigs and on his own judgment may *or may not* report suspected swine-fever to the Board.

No doubt there were many cases reported which were not swine fever. No doubt there are now many cases not reported which are swine-fever. If this were so in 1900 small wonder that the following year should see an increased spread of the disease. The discretion of the policeman in diagnosing swine-fever!! One is amazed at the hardihood of a Government official who not only permits such a thing but speaks of it with approval. There are more cases than one on record where the policeman has gone so far as to make a post-mortem examination and act upon his presumption. Does Major Tennant approve such a course or does he not know of it?

Last year the Board adopted a modification of their practice- At one time the diseased pigs, and all those in direct contact, were slaughtered. Now diseased pigs are allowed to die and the incontact to become infected under Government supervision. By this means the Board evade payment and the owner suffers the entire loss. This change of practice is referred to by Major Tennant as follows: "During the latter part of the year the slaughter of swine on premises where outbreaks of swine-fever have occurred has been confined within somewhat narrower limits than formerly, and this fact seems to have given rise to the supposition that there has been a radical alteration in the policy of the Board in dealing with this disease." We characterise this paragraph as misleading and unfair. The word "radical" is all that saves it from being untrue. If Major Tennant were an owner of swine instead of director of a veterinary department he would keenly appreciate that a new departure had taken place when instead of slaughter and compensation for diseased pigs he was treated to compulsory isolation and loss of the animals by death.

Apparently Major Tennant would, if he had all his own way, carry the "radical alteration" further than swine fever, and reconsider the whole question of slaughter with compensation as a method of suppressing contagious diseases among animals. Either this is what he thinks right, or he has lost his head over the frightful failure which has attended his adminstrative effort to control swine fever, and writes paragraphs in general language which are intended only as excuses directly applicable to swine fever. He must have been badly pressed for excuses when he wrote this paragraph, which may be found on page 36 amongst a lot more special pleading and weak controversial matter:—"There seems to be no more reason why losses due to infectious diseases should be covered by compensation than losses from any other cause." When it can be shown that "losses from any other cause" may be prevented by payment of compensation as an integral part of other measures, then there will be good reason to pay. If we could prevent future loss of property by fire and storm, we should be justified in paying for many losses. But we cannot do away with such causes of loss. We can exterminate infectious diseases. We have exterminated cattle-plague, pleuro-pneumonia, and foot-and-mouth disease. Does any one dream that these three diseases could have been stamped out without payment of compensation? No argument is requisite to show that justice and expediency are in favour of compensation as part of the methods of stamping out disease, and any man who thinks differently is unfitted to have any lot or part in the operations adopted for that purpose.

LACTATION IN A FOAL.

Mr. Edward Percival Smith's case published in your issue of August 17th appears to me to be a most interesting one from the fact of the foal coming into season at such a very early age, and I trust if any of your readers have ever observed a similar phenomena they will place it on record.

Precocious lactation is not unknown, and the following cases I have been able to find may be of interest. *Recueil de Médecine Vétérinaire*, Dayot, 1854, page 850; Lemaire, 1854, page 475, 1861, page 1852, and 1875 page 55; Hamon, 1858, page 311. Grenot, *Annales de Médecine Vétérinaire*, 1861, page 197, and Gathelier, *Bulletin de la Société des Sciences Vétérinaire*, 1898, page 25.

There are other cases of abnormal lactation on record. Delafond reports a case of a bitch that went to the dog but proved barren, nevertheless at the time she was due to pup she came in milk, *Bulletin de la Société Centrale Vétérinaire*, 1875, pages 460 to 469.

Leblanc reports a case of a cow that proved barren giving milk two months after she had been to the bull—*Maladies des Mamelles chez les Animaux Domestiques*, page 24.

Limburg a case of a virgin mare, 4 years old—*Annales de Médecine Vétérinaire*, 1873, page 591.

Bru, a case of a two-year-old filly that had been tied up with a donkey foal that had acquired the habit of sucking at her—*Revue Vétérinaire*, 1890, page 21.

Broad, a case of a yearling that gave three pints of milk for several months—*Veterinarian*, 1864.

Mazure, *Annales Vétérinaires*, 1854, page 96; Lloyd, *Veterinarian*, February, 1878, and Labo and Courton, *Annales Belge*, 1876, page 141, give similar cases in heifers.

Barbe and Bazas relate an interesting case of a spayed sow suckling a young pig that was placed in the same sty with her—*Revue Vétérinaire*, 1883, page 117.

Gavard records a case of a goat six months of age giving milk—*Journal de Médecine Vétérinaire et de Zoötech*. December, 1893.

None of these observers, however, mention the œstrum observed by Mr. Smith. There are also instances of lactation in the male, but this is beside the case in question.

Joshua A. Nunn, Vet.-Lieut.-Colonel.

"SUNSTROKE."

By E. Wallis Hoare, F.R.C.V.S.

On May 10th, I was requested to attend a black retriever pup, aged about six months. The history given was that the animal went out that morning with his master for a walk and was apparently quite well. After going a short distance he got a sudden fit, frothed at the mouth, lost consciousness for a short time and then seemed to revive. He was brought home and another fit occurred.

On examination I found the patient almost unconscious, unable to lift his head, tongue protruding, eyes moving in a convulsive manner, and not sensitive to the touch, pupils dilated, sclerotic deeply injected, choreic movements of fore and hind limbs, respirations greatly accelerated, pulse quick and weak, constant panting, temperature 110; this was taken twice with a reliable thermometer.

The animal was placed in a cold bath, and ice applied to the poll. He seemed to revive a little, but was unable to swallow. Cold water enemata were also given. The comatose condition increased and he died in the afternoon.

The autopsy did not reveal any lesion. I forwarded the head intact to Professor Mettam who kindly examined the brain and reported congestion of the meninges, but no other lesion.

Remarks.—I made a diagnosis of "sunstroke," as the morning had been very hot. This of course is only for want of a better term, as I confess my ignorance of the real nature of the affection.

By a coincidence this animal's sire was the subject of an obscure affection, which case I reported lately in *The Veterinary Record*.

PSEUDO-TETANUS.

This is a coined term but one that is handy for the following case.

The subject was an aged pony mare with foal at foot: the animal having foaled about nine days. She was brought a long way into town and on arrival appeared stiff and refused food.

On attendance I found all the symptoms of tetanus present. The jaws were firmly locked, the membrana nictitans over both eyes, body stiff and rigid, respirations greatly accelerated.

I informed the owner of the hopeless nature of the case, but said it would be as well to try treatment so prescribed ext. bellad. and pot. bromid. as an electuary, and removed the foal to a separate stall.

I did not see the animal for two days and was surprised when the owner called and said the pony was perfectly well, and so she proved to be. The jaws relaxed slightly the first evening and she fed a little. Next morning, beyond a little stiffness she appeared going on well and fed as usual, and towards evening all symptoms had disappeared.

Now comes the interesting part of the case. According to the owner this pony last year got a similar attack about nine days after foaling, not so severe, but recovery was quick, and no treatment. He also informed me that some years ago the pony injured her neck while jumping a bar and was under my care at the time. This I remembered, and also that as a result of the accident she always kept the head "poked out," in fact I reported the case at the time and it was illustrated by a photo. But how can we explain the cause of the tetanic symptoms? It would be interesting to solve the mystery.

The practical lessons to be derived from the case are, I think, as follows: Do not order a case of this nature to be destroyed unless the animal cannot rise and is in convulsions. In fact it is necessary to be very careful in prescribing the friendly bullet, as by the irony of fate cases apparently hopeless may recover. Further examples are to be met with in cases

of apparent paralysis, which occasionally get up and recover.

On referring to Quain's Dictionary of Medicine, I find under the heading of tetany, an affection described which to some extent would resemble the above.

The tonic spasms in severe forms may "even spread to the facial muscles so that the jaws may be firmly clenched." "If the muscles of the larynx are involved as well as those of the chest and abdomen, extreme dyspnœa may be induced. These attacks may be of brief duration, or they may be extreme in degree, long continued, and frequently repeated" I would suggest that some of those ephemeral cases of tetanus that we occasionally hear about, are in reality cases of tetany. If I had used the tetanin serum in the above case what an amount of false credit I should have accorded to it.

E. W. H.

ABSTRACTS FROM FOREIGN JOURNALS.

CASE OF LUXATION OF THE KNEES FORMING AN ANGLE RESEMBLING THE HOCK JOINT.—Communicated to the Central Veterinary Medical Society of Paris, by M. BOYER, Veterinary Surgeon, French Army, Algiers.

On January 20th, 1899, I was called upon to proceed and examine the horse of a native soldier which had been abandoned by the rider 60 miles away while proceeding on a journey with a despatch.

I found the patient lying down with the limbs tucked under him and with considerable difficulty made him get up, when it was seen that the fore limbs were in the position shown in the photograph. He remained standing a few minutes, but moved with difficulty, and then went down again, but shortly afterwards got up of his own accord to reach some tufts of grass that were out of his reach.

The knees were neither swollen, hot, or painful, and except for the deformity there was nothing abnormal. Not wanting to destroy such an interesting case in the desert, I had him brought into the nearest military post where he arrived the next day. The animal was placed in slings, but remained in them with difficulty and had to be frequently let down as he threw all his weight on his chest. The appetite remained good, likewise the general state of health He could get up himself although with difficulty, would remain standing for five or ten minutes, and then go down. When he had stood a little time the deformity appeared to increase, but there was never any tumefaction, pain or heat over the joint. There was great difficulty in putting the weight on one limb.

There being no symptoms of a fracture or rupture of the tendons and a total absence of inflammation I could only attribute it to extension of the ligaments. After treating the case for eight days without any improvement, and as troublesome bed sores were forming, I had the animal destroyed. The only lesions found were the following which were present in both joints, otherwise they were perfectly normal.

1. Some patches of ecchymosis on the large posterior ligament of the knee, giving it a marbled appearance. This was due to friction by the flexors, caused by the abnormal position of the limb when standing.

2. Slight erosion on each of the upper row of the bones of the knee, and the extremity of the radius. The synovia was large in quantity, opaque and thickened.

It is difficult in the Army to obtain the true history of an accident when a soldier is by himself, but in all probability the man found himself late and to make up time galloped across country, the horse dropped into a depression in some broken ground, throwing the rider forwards and the shock caused the accident, the whole of the ligaments of the knee being in a state of degeneration.

I had no means of making a microscopic examination, much to my regret, but I am inclined to this opinion from the absence of all inflammation, for had there been a sprain of healthy tissue this would certainly have set in, and a rupture or fracture would have early been detected.

It would under ordinary conditions of course be useless to treat such a case, but if the patient was valuable it might be worth while adopting properly fitted splints, always provided there was no degeneration of the ligaments simply super extension.

Recueil de Médecine Vétérinaire, 30th July, 1901.

JOSHUA A. NUNN, Vet.-Lt.-Col.

GLANDERS BACILLUS.—According to Dr. Kucera, of Prague, the organism of glanders is a saprophytic hyphomycete whose growth commences as short rods passes through a long filament stage and finishes as a filamentous mycelium, and in the animal body undergoes a retrogressive evolution in which the elements of the mycelium separate, reappear as rods, and recover their virulence after the manner in which Hansemann considers epithelial cells become carcinomatous.—*Semaine Médicale.*

British Congress on Tuberculosis.

[ABSTRACT.]

WHAT ADMINISTRATIVE MEASURES ARE NECESSARY FOR PREVENTING THE SALE TO THE PUBLIC OF TUBERCULOUS MEAT.

By SHIRLEY F. MURPHY.

Medical Officer of Health of the Administrative County of London.

It is not within our province in this section to consider whether or no the consumption of the meat of tuberculous animals is prejudicial to man. The title of the subject which I am invited to discuss implies that tuberculous meat must be excluded from the food supply. This question has been considered by two Royal Commissions, the second of which was presided over by our chairman, Sir Herbert Maxwell. I shall later have to mention the conclusion at which this Commission arrived, and this because it has a necessary bearing upon the sort of administration which is needed, but I shall accept its conclusions and shall not enter into a discussion of pathological questions. I may, however, in commencement, briefly refer to the frequency with which tubercular disease affects cattle and the proportion of those which are slaughtered which must be deemed to be unfit for human food.

If animals were rarely affected with this disease, it might be difficult on this ground to claim the institution of an administration to prevent the sale of their meat to the public. This, however is not the case, and it will suffice in evidence of this contention to quote the figures published by the first Royal Commission. This report shows that during a period of four years in the Copenhagen slaughter-house 17·7 per cent. oxen and cows and 15.3 per cent. of swine were found to be tuberculous, and that in the Berlin slaughterhouse in one year 15·1 per cent. of oxen and cows and 1.55 per cent. of swine were found to be tuberculous. Of the oxen and cows in the Berlin slaughter-house, 1.26 per cent. were condemned on account of tuberculosis, and 0.23 per cent. of swine. The report further says that the Commission has reason for thinking that in this country "the facts about tuberculous animals would exhibit a broad resemblance to the foregoing, if such records could be obtained." The figures obtained from public slaughterhouses in England are in no way conclusive of the amount of animals intended for food which are tuberculous, or which are found to be unfit for human consumption. At the present time there is no need for the owner of an animal presenting signs of disease to have it slaughtered under conditions which would ensure its inspection. He can easily kill it elsewhere. I may state that among 18,440 cattle slaughtered in the Manchester public slaughterhouse in 1896, 48½ carcases of cows, and three carcases of bullocks were condemned on account of tuberculosis, or about ·3 per cent., being but about one-quarter of the proportion condemned in the Berlin slaughter-house. Mr. James King, the Veterinary Inspector of Manchester, who supplied the figures relating to that city, stated to the second Commission that very few cows are sent to the public slaughter-house from the country round. "People," he said, "are a little frightened to send cows to the abattoirs. They do not care to send them in where there is rigorous inspection. The cows go, he thought, to the districts outside, because the Manchester market received a greater number of cows dressed than live cows coming to the abattoirs. The carcases are brought in if it is thought they will pass in the Manchester market, and no doubt if they are badly diseased they are retained outside. That (he said) is my opinion about the matter."

I may now turn to the consideration of the amount of tubercular disease which must be deemed to render the flesh of animals unfit for human consumption. Turning first to Germany, we find the practice is as follows :—

In Prussia the law of 1892 provides that (1) the flesh of tuberculous cattle is deemed unfit for food if it contains tubercle, or if the tuberculous animal is emaciated, although there may be no tubercle in the flesh. (2) The flesh of tuberculous cattle may be considered fit for food if the animal is well nourished and (*a*) the tubercle is found solely in one organ, or (*b*) in the event of two or more organs being diseased these organs lie in the same cavity of the body and are directly connected with each other either through the lymph vessels or through blood-vessels, which do not belong to the general circulation, but to the lungs and portal circulation.

In Bavaria the law of 1892 provides that the flesh of cattle and swine shall be deemed fit for food if the tuberculosis is localised and in the first stage of development, and the animal is in a well-nourished condition. The flesh is to be considered unfit for food if the animal is suffering from generalised and advanced tuberculosis, and at the same time shows signs of emaciation.

The second Royal Commission recommended that the entire carcase and all the organs should be seized if (*a*) there is miliary tuberculosis of both lungs ; (*b*) when tuberculous lesions are present in the pleura and peritoneum ; (*c*) when tuberculous lesions are present in the muscular system, or in the lymphatic glands, embedded in or between the muscles ; (*d*) when tuberculous lesions exist in any part of an emaciated carcase, and that the carcase, if otherwise healthy, shall not be condemned, but every part of it containing tuberculous lesions shall be seized (*a*) when the lesions are confined to the lungs and the thoracic lymphatic glands ; (*b*) when the lesions are confined to the liver ; (*c*) when the lesions are confined to the pharyngeal lymphatic glands, and (*d*) when the lesions are confined to any combination of the foregoing, but are collectively small in extent. In the case of the flesh of the pig it is recommended that, in view of the greater tendency to generalisation of tuberculosis in that animal, the presence of tubercular deposit in any degree should involve seizure of the whole carcase and of the organs.

If we may assume that it is necessary in the interest of the public health to enforce the requirements of these laws and recommendations, and I see no reason for any other view, we are obliged to consider the course which should be adopted for that purpose.

For what follows I am largely indebted to Professor Ostertag's excellent work on meat inspection. In Belgium the law of 1890 requires that "all animals, including pigs, whose flesh, intestines, fat or blood is intended for human food, must be examined, after slaughtering, by an expert who is either appointed by the town, or if this does not occur, by the government for the commune in which the slaughtering takes place, and the communes may require inspection of the animal before slaughter. The conditions under which this is to take place are prescribed by the commune, which also bears the cost. The inspection is generally made by veterinary surgeons. Inspection of the carcase and viscera must take place at the latest twelve hours after the slaughtering in summer, and twenty-four hours in winter, and the carcase must not be cut up before inspection. The abdominal viscera must be taken out before the arrival of the expert and so preserved that their connection with the particular carcase can be recognised. If on examination the whole or part of the animal is considered unfit for food, notice has to be given to the burgomaster, who gives orders as to what shall be done with the carcase. If the owner of the animal is dissatisfied, an appeal is provided. It is un-

lawful to sell meat which has been slaughtered contrary to these regulations and in the case of meat brought in from outside it is required that it shall only be the whole or the half or quarter of the carcase, and the lungs must remain in their natural position, all must be examined and stamped. In Southern Germany, in part of Western and part of Central Germany and in the free cities of Bremen, Lübeck, and Hamburg there is regulated meat inspection. Animals intended for human food must be examined before and after slaughter, in some places exemption being made for very young animals. In Northern Germany the conditions are not the same, obligatory meat inspection being required in some parts, including Berlin, and not in others, examination for trichinosis alone being practically general. In Brunswick and Saxony, since 1898, however, meat inspection is obligatory throughout, the law being very similar to that of Belgium.

In Sweden and Norway there have been laws requiring the provision of communal slaughterhouses since 1892, and, in 1895 requiring meat inspection in the towns. In Denmark, Professor Ostertag states that, in 1899, there were public slaughterhouses and meat inspection in seven towns. In Austro-Hungary, the law requires the inspection of slaughtered animals, but the method of administration had prevented uniformity of action. In Italy a good scheme for meat inspection became law in 1890, but the regulation of meat being left to the provincial authorities has made a thorough reform impossible.

I am not exaggerating the position if I say that the trend of opinion and of law in civilized Europe is to require that meat intended for human food shall be inspected by competent persons before it is sold for this purpose. All countries are not equally advanced in this matter, delay being often caused by the want of provision of the one condition which is essential to the carrying out of this intention—the provision of public slaughterhouses.

I need not point out the absolute necessity of this provision, if effect is to be given to the recommendations of the Royal Commission on Tuberculosis or the requirements of laws which have been adopted in other countries. So long as animals may be slaughtered in numerous private premises in our cities, inspection cannot be carried out. The inspector must be present at the time of slaughter, so as to ensure that regulations as to what is to be deemed fit for food and what is to be deemed unfit for food shall be complied with, and to prevent the dishonest butcher practising those arts which give to meat a fictitious appearance and which are well known to those who have experience of meat inspection.

It is the want of public slaughterhouses which stands in the way of effect being given, in some of the Continental countries, to their law of obligatory meat inspection; it is the opposition to public slaughterhouses on the part of the butchers which is the chief obstacle to the institution of a system of meat inspection in this country.

I may, therefore, briefly refer to the objections which have been urged by the butchers' trade to the replacement of private by public slaughterhouses. One of these objections is that the price of meat would be increased. The effect in Germany of the system of slaughter in public slaughterhouses and of meat inspection has been that the cost of the administration represented a sum less than about one-half a farthing in the pound of meat. This is obviously a price of no practical importance when considered as a set-off against the advantage of the exclusion from sale for human food of meat which is now unfit for the purpose.

It has also been urged that the meat killed in public slaughterhouses would be less well cared for than the meat killed in private slaughterhouses. Such argument would not be used by those alike familiar with the procedure in public slaughterhouses on the Continent and of private slaughterhouses in this country. Compare for a moment the difference between the opportunity given for slaughter in a well-appointed slaughterhouse fitted with every convenience and with cold chambers, to which the carcases are removed, with the opportunity which exists in the small outbuildings and sheds in the rear of private houses in an English town. It has been urged that the offal which is consumed by the poor would be lost if the animal be slaughtered in a public slaughterhouse. This, again, the experience of the public slaughterhouses on the Continent shows, has no foundation. It has been urged that the butcher who has a private slaughterhouse is able to employ his men at one time in slaughtering, at another in his shop or calling for orders. There is no reason why, if the butcher prefers it, they should not be equally employed in the public slaughterhouse as in the private slaughterhouse. It has been urged that, if there were no private slaughterhouses, there would be risk of a "ring" being formed to the detriment of the public. Obviously the best safeguard to the formation of a ring is to give to everyone selling meat the opportunity to slaughter his own animals. At the present time in London only a small proportion of meat vendors have this opportunity, and the rest depend, in the main, upon the middleman. They have no opportunity of slaughtering.

It has been urged that the effect of the replacement of private by public slaughterhouses would tend to the exclusion from the meat market of English-grown cattle. Obviously, so far as London is concerned, the result would be the opposite, for every meat vendor would be able to purchase his own meat alive, instead of depending upon middlemen, who may prefer to supply him with the meat of foreign animals. I am satisfied that the use of the public slaughterhouse is directly in the interest of the butcher, who would save in expense, and who would be able especially to save, by using the meat-cooling chambers associated with it. I recently made some enquiry as to the cost in London incurred by London butchers in providing ice for their ice safes in hot weather. The amount is enormous, and for this the public has eventually to pay in the price of the meat they purchase. It has been urged that public slaughterhouses will be a charge upon the public purse. This again is not in accord with Continental experience. At the time when the second Royal Commission on Tuberculosis was sitting, several of its members, including its Chairman, visited a number of public slaughter-houses on the Continent, and reported that "all the public slaughter-houses in Germany are self-supporting."

In England we must, if we are to prevent the sale of tuberculous meat to the public, provide for and insist upon the slaughter of all animals intended for food in public slaughter-houses, and we must provide competent meat inspectors for that purpose. The question has to be considered to whom shall this duty of meat inspection be entrusted. It is perfectly clear that the work must devolve upon those who have as a basis of the knowledge of meat inspection knowledge of pathology, and this at once narrows the question down to the selection of members of one of the two professions having such knowledge—the medical and the veterinary. I do not think that in this country we shall ever relieve the medical officer of health of the duty of determining what is to be deemed fit for the food of man, nor is it desirable that this should be done; but in the actual carrying out the work I believe, we should do well to enlist, much more than we have done in the past, the services of members of the veterinary profession, and that we shall find that as they qualify themselves for this special duty they will be able to serve the purpose we have in view.

In conclusion, then, I may say that the time has fully come when we should follow the excellent example which has been set us by other countries, that we should require all the animals which are killed in urban districts

for human food to be slaughtered in public slaughter-houses, where there can be inspection before, at the time of, and after slaughter of the animal, that the meat shall be stamped, and that the public should be taught to look for this stamping as the test of wholesomeness rather than have to rely upon the pathological knowledge of the butcher and the housewife. Further, that all meat which has been killed outside a district, other than that which may have been killed in some public slaughter-house, and which bears the evidence of inspection, shall be taken to meat inspection stations for examination.

Greater difficulty no doubt attends the inspection of meat in village communities, but even in such sparse populations the veterinary surgeon is to be found, and it is quite possible to organise a system by which his services are available when animals are killed for food.

VETERINARY SOCIETIES.

NATIONAL VETERINARY ASSOCIATION.

Annual Dinner.

The Annual Dinner of the Association was held in the Royal British Hotel, Edinburgh, on the evening of July 30th the President, Principal Dewar, occupying the chair.

The usual loyal toasts having been duly honoured,

Mr. J. Blakeway, of Birmingham, proposed "The Imperial Forces." In a breezy speech, he referred to the magnificent work the Imperial Forces had done, and considered that without the veterinary surgeon the Army would find itself in rather an awkward position.

Mr. A. W. Mason responded.

The toast of the Medical Profession was proposed by Mr. William Woods, of Wigan, who said the medical profession was said to be the oldest profession, and St. Luke was cited as an example of an early member of that profession, but Noah, by his feat of taking a boatload of live stock through so long a voyage without any loss, proved himself a veterinary surgeon of high standing, of even higher standing than could probably be found in the present day. (Laughter). The medical profession had been of great assistance to the Veterinary profession, as well as to the world at large, and in no city had the medical profession done more for the veterinary surgeon than in the great city of Edinburgh. It had given enormous gratification to the veterinary professsion to feel that they were received at the Tuberculosis Congress quite naturally on a perfect equality with the medical profession. (Cheers).

Professor Fraser (President of the Royal College of Physicians, Edinburgh), responded. He did not know that it was worth while for anyone to attempt to draw any distinction between the work of the medical profession and the splendid work which was being done and had been done by the veterinary profession. Both professions dealt with the same matter, with life as it was manifested in organised Nature, and both had learnt the very important lesson, that aberrations from normal conditions, whether they occurred in the lower animals or in man, were of absolutely the same description, and were to be treated by very much the same measures. (Hear, hear). The medical profession had many lessons taught them by the veterinary profession, and he was gratified and pleased to believe that the veterinary profession were able to learn something from the profession of medicine. He did not know that the similarity between the two professions was more conspicuously displayed than in the results of the great advancement in bacteriology. Bacteriology had put both professions on much the same level by definitely saying that disease was caused by very much the same organisms in whatever animals the disease might happen to occur. In the efforts which the medical profession were making to prevent and to cure tuberculosis, they were always extremely willing to acknowledge how much they were indebted to the knowledge of the profession of veterinary medicine, and to the skill of the members of that profession. Without attempting to criticise the facts which had been brought forward by so eminent a bacteriologist as Dr. Koch, whose views must always command respect and receive the greatest consideration from the whole of the scientific world, those facts and statements were merely the unconfirmed statements of one single observer. On whatever height or whatever pinnacle of fame that discoverer might at present stand, he was undoubtedly liable to all the faults which were unfortunately incumbent on the human race, and might at any moment make observations and statements which were not altogether in conformity with the results of after-consideration. That had been shown in the history of bacteriology especially, and if he might be forgiven for saying so, in the history of the gentleman to whom he had referred. It was a remarkable circumstance that a very similar statement had recently been made in South Africa by a bacteriologist of great standing and skill, in regard to plague. The result had been that further consideration had shown the first views entertained by him and by others, that the bacillus of plague as it occurred in the rat was something quite different from the bacillus occuring in the human being, was altogether untenable, and the experience had been confirmed, just as he felt certain it would be confirmed in regard to tuberculosis, that the one disease was transmissable from the lower animals to man. The present tendency in the medical and veterinary professions was to recognise that the greatest importance was not to be attached to medical treatment, although that treatment was dealing with the products of bacteria—they were looking to a much more effective method of preventing disease, and even of curing disease by a very simple and the old process of sanitary reform. He thought it would be found, by sanitary measures, by improving the habitations of the people, by supplying them with pure air and light, that the devastations of disease would be even more effectively curbed than by bacteriological or any other processes. (Cheers).

Professor J. Cossar Ewart in proposing the toast of the Royal College of Veterinary Surgeons, said that compared with any other profession the age of the veterinary profession was as nothing. Surgeons and physicians looked upon themselves as so old that their birth was of divine origin, forgetting that for many years they were intimately associated with barbers (Laughter). The veterinary profession had nothing to forget: it was the newest of the new, and since it had come into existence it had advanced by leaps and bounds—so much so that the medical profession felt rather proud when it was referred to in the same terms. When great men came from the Continent to speak new things, appeal was at once made to a member of the veterinary profession to reply to him, (Cheers), to throw as much cold water as was expedient on the new notions that had been set forth. (Laughter). There was every reason in the world why the veterinary profession should not only go on and prosper, but in every sense of the term take an equal share in the promotion of science, and in generally serving the country, with the medical profession. The high position of the veterinary profession in the present day was due to the Royal College of Veterinary Surgeons, which had fixed a standard of education, and it was by means of the examination that the veterinary profession had been raised to the proud position it now occupied. He did not see why the R.C.V.S. should not go further, and as time went on encourage that reseach in veterinary medicine and veter-

inary surgery which showed that a profession was alive, and not merely living in the past. He did not see why the R.C.V.S. should not become intimately related to the Universities of Great Britain. In Germany he had been told the agrarian influence was on the side of keeping the veterinary profession in a place a little lower than the medical profession ; but England might set an example to Germany by bringing the veterinary profession more intimately into relation with the Universities of Great Britain, and that might be done without any of the rights and privileges of the R.C.V.S. being in any way sacrificed.

Mr. J. McKINNA (Huddersfield), replying, claimed that the standard of preliminary and professional examinations of the veterinary profession were on an equality with those of the medical profession, and pointed out that the veterinary profession enjoyed one privilege not possessed by the sister profession, namely, that it had only one door into the profession.

Mr. J. F. SIMPSON, in the absence of Professor McCall, proposed the Highland and Agricultural Society of Scotland, a Society which he considered commended itself to veterinary surgeons who had watched the improvement in all classes of animals in Scotland. He recalled to recollection the fact that the Society had played an important part in connection with veterinary science, and was the first diploma-granting body in connection with the veterinary profession. The generosity with which the Society met the approaches of the R.C.V.S., and transferred to that body their right to grant diplomas, was a thing to be grateful for. He coupled with the toast the name of the secretary of the Society, Mr. McDonald.

Mr. McDONALD, in reply, said that the Highland and Agricultural Society had a filial interest in the veterinary profession, took the deepest interest in the advancement of that profession, and he prophesied greater advancement in the near future.

Professor W. O. WILLIAMS proposed the health of the visitors in a brief and humourous speech.

Colonel WARDLAW RAMSAY, replying, expressed a hope that the new Institution which he represented (The College of Agriculture), would be able to do a great deal for veterinary teaching.

Mr. F. W. WRAGG proposed the "City of Edinburgh." He expressed his appreciation of its air, its beauty, its grand old monuments, its Princes Street, and above all, its hospitality, for which the National Veterinary Association owed the city a great debt of gratitude.

Bailie TELFER responded, leaving the city of Edinburgh to speak for itself. The history of the city was the history of Scotland—and what country had a history that would compare with it? In his opinion no professions could compare with the medical and the veterinary for the alleviation and cure of suffering, and that in his opinion was the thing of the greatest importance.

Mr. D. YOUNG proposed the "National Veterinary Association," which he characterised as an Association for the purposes of mutual improvement, goodfellowship, and social enjoyment. He said he had been delighted to hear Professor Dewar's announcement that morning that the veterinary profession was the profession of the future, because he had a recollection that two years ago, at the opening of the winter session of the Dick College, it had been lugubriously prophesied that the veterinary profession had had its day, owing to the advent of the motor-car displacing the horse, and margarine doing away with butter (Laughter). It was a spectacle for gods and men to see an eminent bacteriologist like Prof. Koch dragged at the chariot wheels of Mr. Pottie. (Laughter). He thought that in his past history Prof. Koch had established for himself a record of unreliability. He had heard some singing that evening, and as far as he could recollect the words ran somewhat as follows :—

"When Pottie and Koch shall live to get,
"Their views accepted by every vet.,
"They will both be very proud men, you bet,
But we won't see that to-night.
"When Science has stamped out every pest,
"And every cow has withstood the test,
"The weary vet. will then be at rest,
But we shan't see that to-night."
(Laughter and cheers).

The chairman briefly responded.

Mr. J. S. CARTER, in proposing the toast of "The Officers of the N.V.A.", paid a tribute to their ability, coupled with the toast the name of Mr. Hunting.

The toast was received with musical honours.

Mr. HUNTING, in reply, said he knew that all the cheers with which the toast had been received were to be divided between the seven officers. His own duties were to write a few letters, and to get other people to do the work. The men who did the work ought to have the credit, and the man who ran the show that year was the local secretary, Professor Bradley. (Cheers). The local committee, of which Prof. Williams was Chairman, and Prof. Bradley the Secretary, deserved the whole credit for the success of the meeting.

Prof. BRADLEY, in response to repeated calls, also replied, disclaiming all the credit Mr. Hunting had piled upon him. The work he had done in the way of organising the meeting was comparatively small, as he had had an extremely kind, genial, and hard-working chairman. If anyone was to be thanked, he thought it should be Prof. Williams.

SOUTH DURHAM & NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A meeting was held on Friday June 7th 1901, in the North Eastern Hotel, Darlington. Mr. G. E. Gibson presided. There were also present Messrs. A. Peele, West Hartlepool ; C. G. Hill, J. H. Taylor, and W. N. Dobbing, Darlington ; E. R. Gibson, Seaham Harbour ; G. R. Dudgeon, Sunderland ; W. H. Blackburn, Barnard Castle ; J. G. Deans, Bishops Auckland ; Dr. de Jong, Hartlepool ; Dr. Hern, Darlington ; and W. Awde, Stockton-on-Tees. The minutes of the previous meeting were taken as read and confirmed on the proposition of Mr. A. Peele, seconded by Mr. Dobbing.

THE VICTORIA BENEVOLENT FUND.

The Secretary having read a communication from the Victoria Veterinary Benevolent Fund, Mr. Dudgeon said that he thought the Association could afford to give an annual subscription to its funds, and concluded by proposing that two guineas be subscribed annually to this deserving charity. This was seconded by Mr. A. Peele, and carried unanimously. Mr. Deans having read a letter received from a gentleman in the district, the members were of opinion that it ought to be sent to the editor of *The Veterinary Record* for publication.

ELECTION OF OFFICERS.

President: Mr. W. N. Dobbing, M.R.C.V.S., Darlington ; proposed by Mr. G. E. Gibson, seconded by Mr. Dudgeon.

Vice-Presidents: Mr. J. H. Taylor, F.R.C.V.S., Darlington, proposed by Mr. Deans ; Mr. E. R. Gibson, M.R.C.V.S., Seaham Harbour, proposed by Mr. A. Peele.

Auditors: Messrs. Dobbing and Taylor re-elected, proposed by Mr. Awde, seconded by Mr. Dudgeon.

Secretary and Treasurer : Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees, re-elected ; proposed by Mr. G. E. Gibson, seconded by Mr. Dobbing.

The Question of a Reporter.

At the previous meeting it was decided to make enquiries as to the cost of a shorthand reporter to report the proceedings of the Association. Mr. Taylor stated that a member of the press would do so for 10s. 6d. each meeting or two guineas a year, and furnish a verbatim report to the Secretary after each meeting. It was decided that he be engaged on the proposition of Mr. Dobbing, seconded by Mr. A. Peele

The Congress on Tuberculosis.

A circular was read from the Secretary of the British Congress on Tuberculosis asking the Association to appoint delegates and subscribe to its funds. The President thought that if possible the Association should be represented by a delegate, and that private members should also attend. Mr. A. Peele proposed that the President elect (Mr. Dobbing), be our delegate at the British Congress on Tuberculosis, and that his out-of-pocket expenses be paid. This was seconded by Mr. Dudgeon and carried unanimously.

ON SOME DISEASES OF ANIMALS TRANSMISSIBLE TO MAN.

By E. F. de Jong, F.R.C.V.S, F.R.S.E., L.R.C.P. & S.E.

Rabies and Hydrophobia.

This is one of the most terrible and deadly diseases that man may contract from the lower animals. It is due to a specific agent which is localised almost exclusively in the nervous system. The nature of the poison is not yet known, but is present in the saliva of rabid animals.

The disease most frequently affects the dog and wolf, although it has been observed in the cat, fox, hyena and jackal.

Symptoms.—I am not going to trouble you with the symptoms with which you are all familiar, but would like to remind you of the two forms—the "furious," and the "dumb" or "paralytic;" the latter being characterised by the dropping of the lower jaw, the tongue hanging out of the mouth, and saliva flowing from the mouth. I would draw your special attention to two important features in this form ("dumb,") that there is not only *inability* to bite, but *no desire* to bite.

Morbid Anatomy.—There are no specific lesions found at the autopsy of rabid animals. They are for the most part the consequence of accidents, the essential alterations in the nervous system being very limited. As regards the digestive apparatus there is a general inflammation of the mucous membrane, with here and there ecchymoses. Foreign bodies may be present in the stomach and intestines. The presence of vesico pustules at the inferior surface of the tongue is supposed to be a most important diagnostic lesion. The kidney and bladder are inflamed, the urine being albuminous and containing sugar in 15 to 20 per cent. of cases. The respiratory and circulatory organs show lesions similiar to those found in animals dead of asphyxia.

As regards the *nervous system*, one finds injection and thickening of the cerebral and spinal meninges, with increase in the cerebro-spinal fluid. The venous sinuses are filled with black, liquid blood, and surrounded by a serous infiltration. There is congestion of the spinal cord, and in the medulla hæmorrhages are seen. Very little is known with regard to the alteration in the nerve cell elements.

Infection.—In man and animals rabies is nearly always transmitted by inoculation, most frequently by bites, sometimes, however, by the impregnation of an absorbent surface with virulent matter. Bites of carnivora are more dangerous than those of herbivora, for in the *latter* the wounds are more contused, which thereby renders the absorption of the virus more difficult. Wounds about the face, especially lips and nose are exceedingly dangerous.

Rabies is not transmissible by the *ingestion* of rabid virus, provided the mucous membrane be intact. This has been proved by Delafond, Renault, and others, who have given to dogs, sheep and horses meat and saliva from rabid animals with no ill-effects.

Incubation.—The period of incubation in all the larger domesticated animals varies from 15 to 60 days, but may reach to even 10 or 12 *months.*

Treatment.—Prophylaxis is of the greatest importance, and by the systematic muzzling of dogs the disease can be practically eradicated.

The local treatment applicable to man immediately after the bite, such as careful washing and cauterisation, cannot very well be applied to animals, because the aggressor is only discovered to be mad sometime afterwards, and it is almost impossible amongst his victims to discover the multiple seats of inoculation. Intra-venous injection of rabid virus has been employed with success in the treatment of animals bitten. It consists, briefly, in taking the medulla of an animal dead of rabies, pounding it in a mortar with a little boiling water, and then injecting the emulsion thus produced, after passing it through some very fine gauze, into the jugular vein. Of course, this operation should be done with aseptic precautions, everything being sterilised before use.

Preventive Inoculation.—I cannot very well conclude my remarks on rabies without a few words about Pasteur's method. Pasteur has proved that the virus of rabies, if propagated through a series of rabbits, becomes increased in virulence, and that exposure of their spinal cords to dry air diminishes the potency. If dogs are inoculated with the virus from cords which have been exposed to air for about 14 days, and then with cords preserved for a shorter period, that is, with a progressively stronger virus, they gradually acquire immunity against the disease. Upon these data Pasteur began inoculations in the human subject, commencing with a weak virus and gradually increasing the strength. There is still some doubt as to the efficacy of this treatment, but if one can judge from the reports issued annually from the Pasteur Institute, its importance as a protective measure in man cannot be overestimated.

II.—Glanders and Farcy.

Glanders is a contagious disease due to the propagation in the system of a specific bacillus (B. mallei) and characterised by the production of nodules and ulcerations on the skin and mucous membranes.

It is essentially a disease of the equine species but can be communicated accidentally or experimentally to man and other domesticated animals.

On account of the frequent localisation of the lesions on the *skin*, on the one hand, and on the mucous membranes and viscera on the other, two different clinical forms are distinguished: the first "Farcy" and the second "Glanders." These two forms were originally differentiated as two distinct diseases but nowadays we look upon them as *one* and the same disease, and either of them may be acute or chronic.

The microbe of glanders is a bacillus (B. mallei) discovered by Löeffler and Schütz, non-motile, slightly larger than that of tuberculosis and very difficult to stain by the ordinary methods.

Morbid Anatomy.—In the horse, the lesions are mostly of a chronic kind. In the skin, nodules are produced which breaks down in their centre and became caseous, forming the "Farcy button." The degeneration extends towards the periphery of the nodule and an irregular ulcer is produced. This inflammation, doubtless beginning in the lymph spaces, extends along the lymphatic

vessel which loses its endothelium and finally is converted into a fibrous cord.

The lesions in the mucous membranes are similar to these, nodules forming and then breaking down with the result that ulcers are produced. Of all the viscera the lung is the seat of election of glanders' lesions, the nodules produced being the result of a struggle between the cells of the part and the invading organism.

On section of a nodule, one finds in the centre a caseous granular mass containing the bacilli, often surrounded by a zone of multi-nucleated giant cells or leucocytes, and around this is another of epitheloid cells, the whole being enveloped in a fibrous capsule. To the naked eye, the nodules are yellowish or greyish in colour and about the size of a millet seed. One may also see ecchymoses which indicate the commencing points of fresh nodules.

The liver and spleen are rarely affected in the horse.

Diagnosis.—Since the introduction of mallein as a diagnostic agent, one has no need nowadays to have recourse either to inoculation of another animal (*e.g.*, ass, guinea-pig, rabbit), or to a cultivation of the bacillus on potato.

Infection.—Glanders is transmitted from horse to horse, almost always by food and water infected with discharges. The grooming utensils (especially the sponges) may also be the means of conveying the virus.

Man is infected from a glandered horse or ass by the discharge from the nostril being deposited on some absorbent surface. The pus from farcy ulcers is also a source of contamination to man.

III.—Anthrax.

In former times, under this term a number of diseases were described in which there was a tendency to gangrene or a black discolouration of the blood and tissues. Chabot, in 1790, described *three clinical* forms, but, in 1880, these were reduced to two, the one, *Anthrax*, occuring in cattle, sheep, horses, etc., and transmissible to man, and the other *Black Quarter* (Anthrax Symtomatique), special to cattle and due to a different micro-organism the bacillus Chauvœi.

It is only *Anthrax*, as being transmissible to man, which I intend to discuss. It is a virulent and contagious disease occurring in man and domesticated animals, and due to the presence of the bacillus anthracis. The disease is so rapid in its course that sometimes the nature of it is only discovered at an autopsy.

Morbid Anatomy.— Putrefaction commences very rapidly ; immediately after death the carcase becoming distended with gases which infiltrate the cellular tissues. The subcutaneous connective tissue is infiltrated with a yellowish serosity and presents here and there ecchymoses due to emboli of bacilli in the minute capillaries. The muscular tissue is very friable and on section presents a light yellow colour, and if the animal has been bled it has a peculiar colour not unlike salmon, which is very diagnostic to an experienced inspector. The blood which escapes during an autopsy is black, dirty, and non-coagulable ; the serum has a reddish tint and the endocardium is congested. In the lungs are seen foci of congestion ; and even hæmorrhages may be present due to rupture of the capillaries. Similar ecchymoses are observed under the pericardium and on the large vessels at the base of the heart.

The *spleen* is, as a rule, greatly hypertrophied, specially is the case in sheep where sometimes it is double its normal size, and it is studded with tumours containing in their interior broken down friable material, with large quantities of bacilli. The intestine is the seat of very acute lesions. The lacteals and mesenteric glands are swollen, congested, hæmorrhagic and surrounded by an abundant infiltration. The mucous membrane is covered with a number of red points amounting in some cases to even true capillary hæmorrhages. The liver presents a yellowish appearance and the kidneys are congested.

In fact, to sum up, the fundamental lesion of anthrax is the *alteration of the blood* all the lesions observed being due to the tissues being supplied by a fluid charged with bacilli and their products.

Bacillus Anthracis.—The bacilli of anthrax appear as transparent rods with usually square cut ends, their breadth varying from 1 to 1·25 *u.*, their length varying considerably even in the blood of the same animal. They are ærobic and in the blood of the animal multiply by fission, but after death they form *spores* which are much more resistant to destructive agents than the bacilli themselves. Hence the carcase of an animal should be buried intact to prevent this spore formation.

Experiments have been performed by Pasteur showing that earthworms are a means of conveying spores from an infected carcase (which has been buried) to the surface of the soil. If this be true, burying a carcase is not an absolute prophylactic measure.

Animals affected by Anthrax.—Anthrax affects all the domesticated animals in addition to man. As a general rule, herbivora are the most susceptible, then come omnivora, and carnivora. Dogs and cats are not very liable to the disease, but it has been produced in them by inoculation. Birds are said *not* to take anthrax, on account of the temperature of their blood.

Transmission to Man.—It occurs in persons whose occupations bring them into contact with animals or animal products, such as veterinary surgeons. grooms, butchers, tanners, and those who work in wool and hair.

The virus may be introduced through an abrasion of the skin or through the respiratory or digestive passages. According to the mode of infection two groups of the disease are recognised in man. When the virus is introduced through the skin, it is called *External Anthrax* which includes the well-known form "Malignant Pustule"; and *Internal Anthrax* when introduced internally, which, if by the alimentary tract, by eating the flesh or drinking the milk of diseased animals, is known as *Mycosis Intestinalis* ; if by the respiratory tract, by the inhalation of infective material, it is called *Woolsorters' Disease.*

IV.—Foot and Mouth Disease.

Aphthous Fever, &c.

Is an acute infectious disease characterised by an eruption of vesicles on various parts of the body.

The eruption occurs on the mucous membrane of the mouth, around the hoofs in cattle, and sometimes on the mammary glands. Several micro-organisms have been described as the cause, but Klein has isolated a *micrococcus* which is believed to be the specific agent. The disease *principally* affects domestic ruminants, also pigs and other animals. The horse, dog and cat show a considerable resistance to infection.

Modes of Infection.—It is most frequently transmitted from animal to animal by co-habitation, by food contaminated with the discharges, by the drinking pails, etc. In milch cows the disease is transmitted by the milkers.

Transmission to Man.—Although there was formerly a doubt as regards the disease being transmissible to man, it is now admitted that such is the case. It may occur in one of two ways :—

1st. *By Direct Inoculation* through abrasions, wounds, etc., whilst attending diseased animals, examining their mouth, etc., or by materials contaminated with the virus.

2nd. *By their Milk.*—Milk from diseased animals is not virulent in itself, but it becomes so by being mixed

with virus, as the vesicles occur on the teats and very often at the very extremity, even blocking up the duct.

The meat of diseased animals does not seem to be unwholesome.

As regards prophylaxis every measure should be taken to avoid direct inoculation, and during epidemics, all milk should be boiled before being used.

V.—Trichinosis.

Trichiniasis, etc.

Is a parasitic disease due to the presence of the trichina spiralis in the muscles of man and domesticated animals. The adult worm inhabits the small intestine and the disease is produced by the embryos which pass from the intestine to reach the voluntary muscles, where they finally become encapsuled—muscle trichinæ. The symptoms of the disease are produced during the migration of the embryos.

Description of the Parasite.—The trichina spiralis is a round worm, ovo-viviparous, living in its adult form in the intestines of various mammalia, and in its larval stage in the muscles of the same hosts.

The adult female measures from 3·4 mm., the male, 1·5 mm.

The larva or muscle trichina is from ·6 to 1 mm. in length, and lies coiled up in an ovoid capsule. When flesh containing the trichinæ is eaten by man, or any other animal in which development can take place (pig, rat, etc.), the cysts are dissolved and the larval trichinæ set free in the intestine. These larvæ in the course of three or four days become sexually mature, copulation occurs, and the female gives birth to a brood of young ones in about six or seven days from the date of infection. These embryos then penetrate the walls of the intestine, and arrive at their destination in the muscles, being conveyed by the lymph or blood stream. The pillars of the diaphragm, the muscles of the larynx, the neck, the intercostals, and the tongue are the principal habitat of the larval trichina.

Having arrived at their destination in the muscles they become encapsuled, which process is supposed to take about six weeks. Microscopically, *the cysts* appear as ovoid vesicles, 300-500*u.* long, are placed lengthways between the muscle fibres and contain one or more parasites. These larvæ measure about 1 mm., and as a rule are coiled up in a spiral manner. The cysts remain several months intact, and then undergo a process of calcification which becomes complete in about fifteen months. The number of cysts in the same animal varies, *thirty* millions having been estimated by Leuckart in one case.

Animals subject to Disease.—Trichinosis has been observed, or been produced experimentally in most animals. The rat, pig and man are easily infected; then in order come the mouse, guinea-pig, and rabbit. The dog, horse and cow seem to be the least susceptible.

Transmission to Man.—Man becomes infected by eating the flesh of trichinosed pigs. The danger, therefore, of infection depends upon the mode of preparation of pork and sausages, and to prevent it a thorough cooking is necessary, so that all parts reach the boiling point.

It is not definitely proved how the pig becomes infected, but it is in all probability due to them eating diseased rats. Therefore in order to diminish the disease swine should be grain-fed, and not allowed to eat offal.

VI.—Measles.

This is a parasitic disease due to the presence of cysticerci in the muscles and connective tissue of various animals. The pig and cow, amongst the domestic animals, are the ordinary hosts of cysticerci, which achieve their evolution through man. The cysticerci represent a stage in the life-history of a tape-worm; the cysticercus cellulosæ of the pig, producing the taenia solium in man, and the cysticercus bovis (the cause of beef measles), developing into the taenia saginata or mediocanellata.

Morbid Anatomy.—The cysticercus cellulosæ occurs in the muscles of the pig as an elliptical, white, opaque vesicle, 6-20 mm. long, and 5-10 mm. broad. It is enveloped in a fibrous capsule, and if slight pressure be applied a little body (scolix) can be enucleated which corresponds to the head of the T. solium, possessing four suckers and a circle of hooklets.

The commonest seats of the cysticerci are the tongue, muscles of the back, shoulders, the intercostals, and psoas. Frequently they invade the sub-mucous tissue at the interior surface of the tongue, where they appear as semi-transparent round or ovoid, elevated papules.

Diagnosis.—The only positive diagnosis is the presence of the cysticerci, which may be seen at the base of the tongue under the mucous membrane of the fraenum, sometimes under the conjunctiva, or in the neighbourhood of the arms. In certain towns in France there is a special examination of pigs for sale at the markets, made for these cysticerci, the operation being termed "langueyage," and the inspector the "langueyeur." As the localization of the cysts are not constant, the disease is often overlooked.

Etiology.—The cause of "measles" of the pig is the ingestion of the eggs of the T. solium, which may take place on the manure heaps or in the fields, or they may gain access to the food or drinking water.

Transmission to Man.—It is beyond all doubt that the T. solium of man is due to the ingestion of the cysticercus cellulosæ of the pig. The co-existence of pig measles and tape-worms, the frequency of infection in people who eat pork, and the absolute immunity in Jews of tape-worm, all point to the one cause. Moreover, the tape-worm is very common in pork-butchers, who very often, whilst dressing pigs, put their knives into their mouth in order to have both hands at liberty, and thus may take in the cysticerci.

Prophylaxis.—There are two main factors to be dealt with as regards prevention. Firstly:—*to prevent man from getting the tape-worm*, by a thorough cooking of pork, etc. Secondly:—to prevent the pig from gaining access to the excrements of man, by the employment of more sanitary arrangements.

Beef Measles.—This is due to the presence of the cysticercus bovis in the muscles of cattle. The cysticercus bovis is the cystic stage of the taenia saginata of man. It is a spherical or elliptical vesicle varying in breadth from 4-5 to 10-15 mm. It is enclosed in a fibrous tissue envelope, after removal of which it appears as a yellowish spot, corresponding to the invaginated head of the taenia saginata or mediocanellata. The head evaginated, is tetragonal in shape, presenting four suckers and differing from that of the T. solium by the *absence* of hooks. The cysts may be met with in all organs, but they are found particularly in the muscles, notably the pterygoids, the tongue, the heart, the muscles of the shoulders, the croup, the intercostals, and the pectorals.

They are not so numerous as those of the pig, and are often overlooked.

The cysts after a variable time undergo a caseous and then calcareous change.

Etiology.—The determining cause of beef measles is the ingestion by cattle of eggs of the T. saginata of man. The eggs after ingestion become dissolved in the intestine, and the embryos, thus liberated, penetrate the mucous membrane and become disseminated, most probably by means of the blood, to their habitat in the muscles, where they become encysted forming the cysticerci bovis.

Transmission to Man.—If beef containing these cysts be eaten by man, they produce the *T. saginata* (unarmed tape-worm.)

The preventive treatment similar to that of measles in pork consists in having meat *thoroughly* cooked, and also preventing cattle gaining access to the excrements of man. Although the *T. saginata* is the commonest tapeworm of this country we seldom have cases recorded of measles in beef, which one would naturally expect. This, however, may be accounted for by them being more readily overlooked than in pork, where they present such a white opaque colour.

VII.—Actinomycosis.

This is a parasitic disease occurring in man and domesticated animals, and produced by the actinomyces or ray fungus (streptothrix actinomyces). For some years this disease was described under various names, such as Big-jaw, Lumpy-jaw, Osteo-sarcoma, etc., the tumour of the jaw being the principal feature of the disease in cattle. The parasites which cause the disease belong probably to the streptothrix group of bacteria and can be seen in pus from affected parts as yellowish or opaque granules from ·1 to 1 mm. in diameter. If placed between the fingers, they feel like gritty particles, and are difficult to crush. Microscopically, they are made up of cocci and radiating threads which present bulbous, club-like terminations.

The parasite gains entrance into the system along with certain foods, upon which it doubtless vegetates.

Animals liable to the Disease.—Actinomycosis is very common in cattle. It has been several times described in the *horse*, but it is doubtful if most of these cases were not due to a parasite belonging to a similar germ (Bothriomyces). In the pig, the disease is frequent in Germany and generally affects the mammary glands and lungs. In the sheep and dog it is very rare.

Actinomycosis of Cattle.—The most frequent seat of actinomycosis in cattle is the lower-jaw. It commences as a periostitis, with swelling and difficulty in swallowing. After a time the tumour softens and ulcerates at certain parts, producing unhealthy sinuses communicating with the bone and from which there escapes a peculiar fœtid, sanious pus. Later on, the whole surface of the tumour becomes ulcerated and covered with fungoid excrescences, the neighbouring glands suppurate, mastication becomes impossible, and finally death ensues from exhaustion.

The disease in cattle also commonly affects the tongue (Wooden Tongue) and this was described for a long time as tuberculosis. It has also been found affecting the stomach, intestines and lungs.

Transmission to Man.—It is admitted by most authors that actinomycosis is transmissible to man. The pus which escapes from the sinuses of an actinomycotic tumour can inoculate man through a wound or abrasion, and therefore all those coming in contact with diseased animals, should protect any abrasion and should use antiseptics to cleanse their hands and arms. Another means of infection is by the ingestion of pork invaded with the parasite, and therefore the consumption of infected meat should be prohibited.

VIII.—Ringworms

There are two varieties of Ringworms occurring in the domesticated animals both of which are transmissible to man. (1) Tinea tonsurans, due to a fungus called the Trichophyton Tonsurans. (2) Tinea favosa (favus) due to the achorion Schonleinii.

Tinea Tonsurans.—This is a cutaneous, parasitic, and contagious disease. It *most frequently* occurs in the horse and cattle, but also in the dog, cat, sheep, pig, etc.

In cattle, the disease affects the lips, head, superior parts of the body, and in general those parts where the skin is very thick. It commences as a circular patch denuded of hair, upon which thick epidermal scales rapidly develop and a crust forms which ultimately falls off. There is a slight itchiness which is not so intense as that caused by mange, for which it can be mistaken.

In the horse it affects the neck, the back, the quarters, in fact those parts which came in contact with the saddle or harness.

Diagnosis.—This is established by a microscopical examination of the hairs and epidermal products. Under a low power, the fungus may be seen as filaments in the epidermal scales, and spores in the hair follicles.

Tinea tonsurans also occurs in the dog, in which it principally affects the head.

Transmission of the Disease.—The disease can be transmitted from animal to animal and principally by actual contact, grooming utensils, harness, etc. It is also transmissible to man and usually to those who are attending upon affected animals, grooms, etc. I have attended to a case in children which was attributed to a horse which their father groomed, and no doubt he was the intermediary bearer of the spores from the affected horse to the children, without *himself* taking it.

Tinea Favosa (Favus).—This is another variety of ringworm caused by the development of a fungus—the the Achorion Schönleinii.

Animals liable to the Disease.—It most frequently occurs in cats, but also in mice, rats, rabbits, and dogs. Its occurrence in the horse and cattle has not been definitely demonstrated. The cat is the most common subject of the achorion. In this animal it begins at the fore paws, afterwards attacking the hind and other parts of the body. It appears as sulphur yellow, or greyish crusts, presenting a honeycomb appearance. Favus also occurs in the dog, the symptoms being similar to those in the cat. The disease spreads very rapidly in young animals, and the crusts have a very peculiar odour compared to that of mice.

Transmission.—The disease can be transmitted from animal to animal, and it would appear that the cat and even the dog, become infected through mice and rats. As regards man, it is most frequently conveyed from diseased cats, and it affects the scalp particularly in children, being more intractable than the ordinary ringworm (Tinea Tonsurans).

IX.—Mange (Scabies).

All domesticated animals are subject to several varieties of mange, caused by different species of mange mites. In the horse, ox, and sheep three forms are met with and described according to the species of mite-producing them. Thus we have Sarcoptic, Symbiotic, and Dermatodectic. In the dog, however, we have in addition to the sarcoptic form of mange, another due to a kind of mite (Demodex Folliculorum) which lives in the hair follicles and produces the well known "Follicular Mange" which is so difficult to cure. It is the sarcoptic variety which is most frequently transmitted from animals to man, and therefore I shall confine my remarks to this.

Scabies of the Horse.—Sarcoptic mange of the horse is caused by the Sarcoptes Scabiei var. Equi. The disease begins by a very intense itchiness of the parts affected, viz., the withers, neck, back, and sides, and upon examination of these parts one finds a few hard pimples on the skin. Later on these increase in size and the hair falls out, leaving bald patches of skin. The disease may extend all over the body, and if not treated produces a state of marasmus which may even prove fatal.

Transmission.—The disease is almost always transmitted from horse to horse, by direct contact, clothing, grooming, utensils, etc.

It appears that sarcoptic mange of other animals produces very little effect in the horse and similarly infection *from* the horse to other animals has scarcely been established, although some doubtful cases of cattle being affected have been reported.

As regards the transmission to man, it is very common

but it is pleasing to know that the disease thus acquired is very transient, and even tends to disappear spontaneously in a few weeks.

Scabies of the Cat.—Mange of the cat due to the sarcoptes minor, is of very common occurrence. It affects the ears and gradually spreads over the head and neck. The cat is usually infected from its own species, although it may be transmitted from the rat which harbours an "acarus" of the same species. The disease can be conveyed to other animals, viz., horse, ox, and dog.

It is readily transmitted to man in whom, sometimes, it is very difficult to cure.

Scabies of the Dog.—Sarcoptic mange of the dog, due to the sarcoptes scabiei var. canis, generally commences at the head, the nose, round the eyes and ears. It spreads with great rapidity and is readily transmitted to human beings.

As regards Demodectic Mange due to the demodex folliculorum var. canis, it is much more common than is usually suspected, but very difficult to treat.

I believe cases of transmission to man of demodectic mange have been reported, but from the rare occurrence of such we may infer that it is not readily transmitted.

Scabies of Cattle and Sheep.—Sarcoptic mange of cattle is scarcely known, its existence even is doubtful, and one ought to consider its transmission to man, as quoted by Tudichum, as extremely hypothetical.

Sarcoptic mange of sheep, on the other hand, has been well studied. It begins about the lips, slowly invading the eyelids and the cheeks. It is transmissible to man, Gerlach having on several occasions produced it experimentally.

Scabies of the Pig.—This due to the sarcoptes scabiei var. suis ; commences about the head, and its transmission to man has been demonstrated by Delafond, who found that the disease experimentally produced soon yielded to ordinary treatment.

X.—Hydatid Cysts.

Hydatids or Echinococci cysts represent the larval form of a tape-worm of the dog—Tænia Echinococcus.

Following the ordinary life-history of tape-worms it passes through two different hosts. The egg ingested by one of these, becomes a larva which encysts itself in some tissue (the cystic stage), and this cyst must pass into the alimentary canal of *another* organism in order to achieve its evolution and become an adult. The dog alone harbours the T. echinococcus, but the larvæ affect man, all herbivora, pig, and some carnivora. The origin of the hydatid has been demonstrated by various scientists by feeding dogs with echinococcus cysts and producing in them the tape-worm.

Tænia Echinococcus.—The dog becomes infested with this tape-worm by eating viscera of animals containing hydatids. As sheep and cattle are particularly liable to these cysts, it is therefore amongst collies and sheep dogs that this cestode is most prevalent. The T. echinococcus is the smallest cestode of the dog, measuring from 3 to 4 mm. in length and consisting of 3 or 4 segments (including the head) of which the terminal one alone is mature and contains the eggs. The head is small, is provided with four suckers and a rostellum with a double row of hooklets.

Symptoms of the Tænia.—There are no *special* symptoms produced by this tape-worm, but if they be present in large numbers they may give rise to epileptiform seizures which sometimes may simulate rabies. As, however, other species of cestodes are often found in conjunction with them, it is difficult to differentiate the *rôle* played by each in the production of the symptoms observed.

Transmission to Man.—The cause of hydatids is essentially the ingestion of eggs of the T. echinococcus, which may be taken in with the drinking water, or fruits, salads, etc. Hydatid disease is therefore most prevalent in those countries, in which man is brought into close contact with the dog. This is exemplified in the fact, that in Iceland, where dogs and human beings are in close association for several months in the year, 15 per cent. of the population are the subject of hydatid disease.

Development of the Cyst.—After the egg has reached the alimentary canal, the shell is dissolved by the digestive juices and an embryo (six-hooked embryo) is thus set free. This perforates the mucous membrane and reaches the peritoneal cavity, the muscles, or may be carried by the portal or systemic vessels to the liver and various other parts of the body, brain, etc. Having arrived at its destination the hooklets disappear and a little cyst is formed which consists of two layers (external and internal) and contains a clear fluid. After a time buds develop from the internal layer and these are gradually converted into cysts similar to the original ones. These secondary or daughter cysts are soon set free and give rise to other cysts (grand-daughter) and in these cysts outgrowths arise which develop into *scolices*, which are in reality heads of the T. echinococcus, and present four suckers and hooklets. Each scolex (if ingested by a dog) is capable of developing into an adult cestode. The fluid contained within the cysts is clear, limpid, non-albuminous, and has a specific gravity of 1005 to 1009.

In the discussion which followed,

Mr. Taylor mentioned actinomycosis as not being common in this district, but in Suffolk disease of the tongue was fairly common.

Dr. Hern would prefer the cremation of carcases of animals having died of anthrax in preference to their being buried in their skins as was now done. He also asked if ring-worm was caused by the same microbe in each animal.

Mr. Dudgeon thanked the Essayist for his paper, and said that it had brought things to his mind which he had forgotten. Foot-and-mouth disease was very common in his young days, and the loss to owners of milk cows very great. Actinomycosis was unknown to him. He had contracted ringworm from his own horse. Rabies had been stamped out and glanders and farcy could be treated in the same way if only the Government felt inclined to take the matter up. Trichinosis, he believed, was exceedingly rare in this country.

Mr. Dobbing and Mr. Hill added their thanks to Dr. de Jong for his paper.

Mr. Deans believed that earth worms caused anthrax in some cases, but had reason to believe that feeding cakes were also responsible. He thought glanders the most important disease of the lot mentioned.

The Secretary agreed with the previous speaker that anthrax was obtained through the medium of feeding cakes, and mentioned Lord Brougham's case recently reported where a verdict has been obtained. He also mentioned being infected by ringworm from contact with cattle suffering from the disease.

After a few remarks from the President, Dr. de Jong replied to the various speakers, after which a hearty vote of thanks was passed, on the proposition of Mr. G. E. Gibson, seconded by Mr. Taylor, which the Doctor suitably acknowledged.

The members subsequently had tea together in the Hotel.

W. Awde, *Hon. Sec.*

WESTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

A meeting of the Association was held at the Great Western Railway Hotel, Taunton, on Thursday, July 18th. The president (Mr. R. E. L. Penhale, Torrington), occupied the chair, and there were also present Messrs. P. G. Bond, Plymouth; W. Penhale, Barnstaple; W. Ascott, Bideford; A. J. Down, Sampford Peverell; W. Brown, Wiveliscombe; Gillam, and C. Brown (a visitor).

Letters of apology for non-attendance were received from Messrs. A. James, Honiton; W. H. Bloye, Plymouth; and Thos. Olver, Truro.

A letter was received from the secretary and treasurer of The Williams Memorial, acknowledging a donation of £5.

The hon. secretary (Professor Dunstan) wrote as follows:—

Royal (Dick) Veterinary College,

Dear Mr. President:—I am writing resigning the secretaryship of the Western Counties V. M. A. It is with some feelings of regret that I do so, as during the past five years I have become much attached to the Association and its work. I have been elected to the Chair of Surgery in this college, so it will, of course, be impossible for me to attend the meeting. Kindly convey to the members my regret at leaving the Association, and my very best wishes for its future welfare and prosperity. Yours truly,

JOHN DUNSTAN.

Mr. PENHALE (Barnstaple) moved that Mr. Ascott, of Bideford, be asked to accept the post of hon. secretary in successor to Mr. Dunstan. Mr. Ascott was so well known that very few words were needed to commend him to the Association. He was an old member, and had always taken a deep interest in their work. He (the speaker) knew something of Mr. Ascott's methodical ways and of his capabilities, and in his native town he acted as secretary of many concerns with great success. (App.)

Mr. BOND, in seconding, said the nomination would meet with the approval of all the members of the Association.

The motion was carried unanimously.

Mr. ASCOTT, in returning thanks for the honour, said they had had so many good secretaries, that he had some diffidence in consenting to try to follow in their footsteps. Whether he should be successful remained to be seen, but he would do his best for the Association.

The PRESIDENT moved that the hon. secretary be requested to write thanking Professor Dunstan for the able way in which he had discharged his duties, and congratulating him on his appointment. The Association were very sorry to lose Mr. Dunstan, who had rendered them valuable service. (App.)

Mr. ASCOTT, in seconding, said their late secretary had been most energetic on behalf of the Association, and never more so than during the visit of the National Veterinary Association to Plymouth. (App).

The motion was carried unanimously.

Mr. W. J. DUNSTAN, St. Mellion, was nominated for membership of the Association.

PRESIDENTIAL ADDRESS.

R. E. L. PENHALE, M.R.C.V.S.

The PRESIDENT said, he would take the opportunity of thanking them for the honour they had done him in electing him as their president for this year. He accepted the position with considerable misgiving, for in the first place, he had not been able to take any very active part in the work of the Association, such as would entitle him to the honour. Those who had preceded him had always carried out the duties with such great ability, honour, and credit to the Association, that he was quite sure they would sympathise with him in his humble endeavours to follow in their footsteps.

Mr. Bond was good enough to say at the last meeting that he (the President), was one of the oldest members of the Association, and he believed that was so. (Hear, hear.) He was able to say that he joined it at its commencement. The first meeting was called in February, 1884, when it was agreed to form an Association. At the first annual meeting the late Mr. Gregory, of Bideford, was nominated to the chair, and Mr. Penhale, of Barnstaple, was hon. sec. It was predicted by more than one that they would not be able to keep the thing going very long, but he thought they had every reason to feel satisfied with the way it had progressed, and the position it now occupied. He was confident that it had been the means of doing the veterinary profession a considerable amount of good in this county. Instructive and practical papers had been read, and this and kindred Associations had been the means of considerably improving the social position of veterinary surgeons. It was the means of bringing together all sorts and conditions of members for the purpose of instruction and enlightenment in veterinary surgery and medicine.

There was one other object which he should like to see this Association have, and that was a combining together as a body of professional men—union if they liked. "Union is strength." It was only for some person to make a start, and they would be in a position to help forward their objects very differently than they were able to do now. They would be in a position to demand different treatment and more instruction at the hands of the large governing bodies, such as the Local Government Board and the War Office, although he believed they were likely to receive better treatment at the hands of the latter body.

He thought they had been very badly treated by the Local Government Board, especially in the matter of swine fever. No doubt they had seen Mr. Wood's article in last week's *Record*, and he spoke plainly on the matter. It was said now that after several years efforts the disease was still on the increase. The fault was not in the regulations, but in the lax way in which they had been carried out by the various officers. It was the poor professional "tripe washer" who came in for the fault, but it was due to the employment of non-professional men (men of no experience), and also to poor regulations. Mr. Woods, in his article, said that every inspector had a pet scheme of his own for stamping-out swine fever. That applied more particularly to his own district. He (the President) was not an inspector, but there were one or two little things he should like to see altered.

In the first place he felt the principle was wrong of appointing one veterinary inspector over the district of another veterinary surgeon. He thought that was wrong altogether. Every veterinary surgeon should be an inspector in his own practice, or immediate district. These appointments caused friction and jealousy, and instead of pulling together to stamp out the disease they only pulled away from each other. If the veterinary surgeon was capable of looking after his own clients' cattle and horses, he was capable of looking after swine. Then the veterinary surgeon, if in company with a superintendent of police, should have more power. When called upon they should have power to make post-mortem examinations or to kill any suspected animal, and the veterinary's opinion should be final. If he had any doubt he should forward a portion of the viscera to London for confirmation. But the police superintendent and the veterinary surgeon should have the power to kill, and to see that the disinfection and the burial were properly carried out. In places considered to be an infected area, the constable should be allowed to pay

periodical visits as long as he thought he should do so. According to reports the Board were going to increase their staff. He did not know how they were going to employ them. If they were going to be employed as travelling inspectors that would be altogether unnecessary and wrong, because such inspectors cause a considerable amount of delay.

In conclusion he trusted that by their assistance his year of office would be interesting and instructive. (Applause.)

(To be continued.)

EXTRACTS AND NOTES

DEATH OF A MARE FROM NEGLIGENT SERVICE.

A case of considerable interest to veterinarians is reported by the last mail from New Zealand. The matter was adjudicated upon by the Magistrates' Court at Invercargill, and the following notes are taken from the judgment which was delivered on June 15th, seven days having been previously devoted to the hearing.

Simon Grant sued Thomas Allen for £41 5s., being £40 the estimated value of a mare and £1 5s. the sum paid for the service of the mare by the defendant's stallion, "Robin Hood." Plaintiff alleged that owing to the negligence of the groom in charge of the horse the service was effected per anum and in consequence the mare was so injured that she died. Defendant denied the wrong service, and also alternatively that admitting the service per anum there was no proof of negligence on the part of the groom. He also sought to show that the groom, one Joseph Watt, was not a servant of his but that he had hired the horse from him (the defendant) for the season, and was alone responsible for any damage caused through his own neglect. For some reason not apparent in the report, neither side was able to produce Watt at any stage of the case, and in consequence there was no direct evidence that anyone had seen the penis of the stallion actually penetrate the anus of the mare.

The facts were briefly these: On January 23rd last the plaintiff arranged with the groom Watt for the service of a 12-year-old mare by the stallion "Robin Hood." The service took place forthwith, both men being agreed that the mare was in season. Plaintiff took the mare's head whilst Watt controlled the stallion. On the completion of the service Watt informed the plaintiff that it was no service and suggested a second service. Ten minutes later the mare was served again. It was given in evidence that during the first service, when the injury was caused, the mare was very restive, even after penetration, but she stood very quiet during coition on the second occasion. After the second service the mare was removed to a stable and on being visited by the plaintiff and the groom Watt an hour later she was found in a state of collapse and shivering violently. She was then taken out of the stable and walked about 400 yards into a paddock where she was allowed to lie down, but death ensued within 12 hours. It being impossible to obtain the services of a veterinary surgeon plaintiff, without notice to the defendant, caused a post-mortem examination to be made by three experienced farmers who had had much experience in opening up both horses and cattle. The post-mortem revealed a rupture of the rectum about nine or ten inches from the orifice, coupled with discolouration (which was more marked round about the rupture itself) and a quantity of fæcal matter in the peritoneum. There was no discharge of blood in the abdominal cavity, and the sexual organs had not been injured. The examination ended here with the exception of the intestines which were casually but not specially examined, but there was no apparent injury to them. It was also given in evidence that on the same day the stallion also served a mare belonging to a Mr. Dwyer. This mare also proved restive during coition, was served a second time, again proved restive, and one of her fore-legs had to be held up during service. Very shortly afterwards she threw herself down and was then taken into a stable where she died about eight hours afterwards. In this case a post-mortem showed a rupture of the rectum about ten inches from the orifice and fœcal matter in the peritoneum. On the evidence of the farmers who had performed the examinations several veterinary surgeons were called by the defence.

One, Mr. Hamilton, said that: "He would not say that it was impossible for such a rupture to be caused by service per anum; but it was not likely, because he did not believe the male organ was strong enough to produce the rupture."

Mr. Patterson, also a veterinarian, said that: "In so far as the present case is concerned, it is more than possible that the rupture might have been caused by the stallion."

Judgment was as follows: "It will be covenient first of all to ascertain the cause of death. In determining this question it is important to ascertain whether the rupture occurred during life or after death. Now, the fact that that part of the rectum in the immediate vicinity of the rupture was more discoloured than the remaining part is indicate of rupture during life, and there being no suggestive cause reasonably to account for the rupture other than the penis of the stallion I find as a fact that the rupture took place during life. And the fact of there being no trace of blood in the abdominal cavity negitaving the suggested theory of a rupture of an artery in the region of the pelvic bone, whilst the rupture of the rectum during life, coupled with the escape of fœcal matter through that rupture into the peritoneum, and the symptoms of the mare after service and before death being consistent with peritonitis, which is sufficient to cause death, it is more than probable that the suggested rupture of an artery in some region other than the pelvis was either non-existent, or if existent, was itself induced by shock resulting from the rupture of the rectum. Mr. Patterson, as his final opinion formed, not by post-mortem, but by hearing and reading the evidence of the post-mortem examiners, narrowed down the most probable causes of death to:—

(A) Rupture of the rectum setting up peritonitis,

(B) Rupture of an artery causing internal hæmorrhage.

Looking at all the circumstances, I adopt the theory first named. Was then that rupture caused by the penis of the stallion penetrating the anus? This aspect has already been partly dealt with, when considering the cause of death. It seems advisable however, to enter further into detail. No one who gave evidence saw the penis enter the anus. Watt is the only one who could give evidence founded on his own eyesight, and his evidence is not forthcoming, but it has been proved that Watt told the plaintiff immediately after the first service that that service had not been a proper one. The stallion mounted the mare, penetrated some passage, and remained long enough to spend himself. Meanwhile the mare was restive, which was not the case during the second service. It is not therefore open for contention that in using the term 'not a proper service,' Watt meant merely a non-service. He clearly referred to a service in the wrong passage. We have this, then, that an aged though healthy mare is wrongly served. An hour afterwards she is in a state of collapse, within twelve hours she dies, and a post-mortem reveals a rupture of the rectum, but no injury to any of the sexual organs, whilst the only fact of which we have evidence likely to cause rupture is the wrong service, and such a rupture from such a cause is proved to be within the

bounds of possibility. Surely the conclusion must follow that the rupture in the rectum was caused by the penis penetrating the anus. Was, then, Watt negligent in the performance of his duty?"

In dealing with this aspect of the case the court found that Watt had been guilty of gross negligence and made the following statement:—

"With the exception of Mr. Warnock, all those who gave evidence as to the duty of a groom in attendance on a stallion agreed that it formed part of that duty to steer the penis, though there was a difference of opinion at to the object of the steering. Some said the object was to prevent penetration through the anus, whilst others said the steering was to ensure a quick service. Whichever object is adopted the result is the same, the duty of the groom in either case is to take care that the penis penetrates the vagina. Now, it is important to bear in mind that although the mare showed signs of restiveness after the first service had commenced, the stallion exhibited no signs of violence, and we have the defendant's own testimony that he is a quiet server. The reasonable inference, therefore, is that if Watt had been attending to his duty, he could have prevented the penis penetrating the anus, and if either the stallion or the mare, or both, had been restive or violent, and a penetration through the anus had been commenced, it would then have become his duty to pull the stallion off, for which there should always be appropriate appliances. There is no mistaking the evidence of Mr. Hamilton on this score. It is that: 'Assuming that there had been an entrance per anum, it must have been through neglect on the part of the groom.'

I therefore find that the death of the mare was due to the negligence of Watt."

Judgement was accordingly given in favour of the plaintiff, and the Court assessed the value of the mare at £30, and also certified for the return of the service fee.

TUBERCULOUS MEAT IN BIRMINGHAM.

Butchers and Cattle Dealer sent to Prison.

At the Birmingham Police Court yesterday morning, August 16—before Messrs. Ryland and Tangye—Newton Steanes and John Steanes, butchers and licensed carriers, of 33 Dean Street, and George Wilson, butcher and cattle dealer, of Bagot Street, Abbots Bromley, Rugeley, were summoned in respect to a quantity of diseased meat which, on July 13, was deposited for sale in a float belonging to Newton Steanes, in a yard adjoining the "Hop Pole" public-house at the corner of Dean Street and Pershore Street. The charge against Newton Steanes was that he had the meat in his possession at the time of the seizure; John Steanes and George Wilson were charged with "aiding and abetting, counselling, and procuring" the commission of the offence. Mr. Reay Nadin appeared to prosecute, Mr. Philip Baker defended the the two Steanes, and Mr. Norris Foster defended Wilson.

Mr. Nadin stated that Wilson purchased a beast for the small sum of £3 10s., and drove it to his place at Abbots Bromley, where it was slaughtered and the carcase carefully dressed. The offal was buried. Subsequently the meat was taken to New Street Station, where Wilson was met by the two Steanes, who are in the habit of taking meat from him to the market. Newton Steane suggested to Wilson that he had better not send it to the market, because it would be "cut down," meaning that it woud not pass the inspector. If Wilson let him have it, he said, he would do the best he could with it and settle up with him afterwards. This course was agreed to, and the Steanes placed the meat in a float belonging to Newton Steane and drove away. Information of diseased meat being hawked about the city afterwards came to the ears of the officials. Inspectors Wiltshire and Hothersoll visited the yard of the "Hop Pole" on the 13th, and in a butcher's float there found two hind-quarters and the head of a beast unfit for human food. In reply to questions addressed to him Newton Steanes said he did not know where the meat came from. The forequarters had been sold to a horse slaughterer at Oldbury. The meat was submitted to the Medical Officer of Health and Mr. Parker, veterinary surgeon, both of whom certified it to be unfit for human food. The refusal of Newton Steane to say from whom he had got the meat put the officials to a great deal of trouble. Inspector Wiltshire, however, found out Wilson and visited him at Abbots Bromley. Wilson admitted that he had delivered meat to the other defendants, and said that it was suggested to him that the stuff should not be sent to market. The offal he had given away. The inspector made enquiries, and eventually found that the offal had in reality been buried in the garden. It was a deliberate attempt on the part of the defendants to get rid of the diseased meat in the city. They must have known that the meat was unsound, and he asked that, if the case were proved, heavy penalties might be inflicted.

Inspector Wiltshire stated that he found the meat wet and flabby. There were tuberculosis deposits on the lining of the stomach near the kidneys, and also on the skirting; the kidneys were inflamed and congested, and on one of them there were tuberculosis deposits. The hind quarters had been sawn through at the bone, and the meat had been dressed as if for sale. Newton Steanes admitted that he was the owner of the meat, which, he added, came to the city with the Rugeley lot. The meat weighed 207lb. Wilson admitted that after the beast had been slaughtered and opened he noticed that it was diseased.

Inspector Hothersoll also spoke to the diseased condition of the meat.

Corroborative evidence having been given by Police-constable Austins, stationed at Abbots Bromley, and Mr. H. Edwards, superintendent of the markets, having spoken to statements made by defendants to him, Mr. Nadin was proceeding to call evidence of the condition of the meat on Friday, the 12th, when objection was raised by Mr. Baker, on the ground that the summonses related only to the 13th.

The Bench decided not to hear the evidence in regard to the 12th.

Mr. Parker, veterinary surgeon, was then called. He described the condition of the meat, which was tuberculous, and said it was utterly unfit for human food

Mr. Philip Baker, on behalf of the Steanes, said there was no doubt that the meat was unfit for human food, and his clients had endeavoured to sell it for hounds' meat. Part of it was taken by a horse slaughterer at Oldbury for this purpose.

Mr. Norris Foster said there was not a shred of evidence to show that Wilson had anything to do with the case on the Saturday, whilst the meat was in the possession of the Steanes.

Mr. Carter (magistrates' clerk), said he should advise the magistrates that if Wilson gave instructions to the other defendants to sell the meat, he did aid and abet them in the offence.

The magistrates retired for a few minutes, and upon their return Mr. Ryland said the Bench considered the case about as bad a one as they had had before them, and they should mark their sense of the seriousness of it. Each defendant would have to go to goal for two months.—"*Daily Argus.*"

Surra in S. America.

An interesting pamphlet, dated March 19th, 1901, has been issued by Dr. Elmassian, Director of the Pasteur Institute at Asuncion, and Bacteriologist to the Paraguayan Government, on a disease in horses known as "Mal de Cadera" or "Disease of the haunch," and which appears to cause considerable loss to horse owners in that country. The description given of the symptoms, course of the disease, and post-mortem appearances, are identical with that known in India as "Surra" and this is confirmed by the discovery of an organism in the blood identical with the T. Evanensi.

The communication of Dr. Elmassian appears to be of importance in establishing the fact that the disease exists in South America.

Mal de Caderas: Conference fait au Conseil National d' Hygiène, 19me Mai, *1901*, *par* Dr. M. Elmassian, Directeur Pasteur Institute, Asuncion, Bacteriologist Paraguayan Government.

JOSHUA A. NUNN, Vet.-Lieut.-Colonel, A.V.D.

Mr. Sheil on Vets.

Samuel Knightsbridge, foreman horse-keeper to the Improved Cab Company, of Ledbury-Mews, Bayswater, appeared to a summons before Mr. Sheil at Westminster police-court on Wednesday, charging him with sending out a cab-horse totally unfit for work. The animal was said to be aged, very lame, and in great pain. Defendant said he had a veterinary surgeon in court of a different opinion. Mr. Sheil: Oh, yes. You can get one veterinary surgeon to say a thing is white, and another to swear it is black. It only shows the necessity of taking people into custody for cruelty. It puts a stop to it at once, and the magistrate can see the animal himself. Defendant was fined £5 and 23s. costs, or a month's imprisonment.

A newspaper comment on above:—

Veterinary surgeons are a highly qualified and most honourable body of men; it is therefore with something like indignation we read in the papers yesterday a report of proceedings in the Westminster police-court, in the course of which Mr. Sheil, the presiding magistrate, is recorded to have said: "You can get one veterinary surgeon to say a thing is white, and another to swear it is black"—an *ipse dixit* which is, to say the least of it, a most unjustifiable libel on a most reputable profession.

Cruelty Case at Greenwich.—Dismissed.

At Greenwich, G. Porritt, chemist and druggist, of Peckham, was summoned by the R.S.P.C.A. for cruelty to a dog. Mr. Colam prosecuted, and said the defendant, in order to separate two dogs that were fighting, sprinkled ammonia on the animals, and this was the cruelty complained of. Mr. Paul Taylor (the Magistrate): What means would you take to separate fighting dogs? Mr. Colam: Pepper; I have tried scattering it on their noses, and the dog that has hold of the other is bound to sneeze. (Laughter.) The owner of the dog and two children gave evidence, and a veterinary surgeon said the dog's mouth was injured by some irritant. There was a mark of a dog's teeth, and ammonia appeared to have got into the excoriation. The defendant said the dogs were fighting outside his shop for a long time, and he poured diluted ammonia (two parts water to one of ammonia) on to the pavement. A little might have got on to the dogs. The effect was to stop the fight. Mr. Paul Taylor said if there had been proper investigation he thought no charge would have been made against the defendant. It was necessary to stop the fight, and there was no evidence of intentional cruelty. He sympathised with Mr. Porritt. The summons would be dismissed with two guineas costs.

ARMY VETERINARY DEPARTMENT.

From *The London Gazette*:

WAR OFFICE, PALL MALL, Aug. 20.

The following names appear in the list of officers brought to notice by Lord Kitchener in connexion with operations in South Africa:

Vet.-Lieut.-Colonel F. SMITH, Army Veterinary Department, for his energy, tact, and unceasing good work in managing sick farm and hospital, and in providing mules and horses for remounts.

Vet.-Lieut. S. SHERLOCK, 5th Victorian Mounted Rifles, on June 7th, at Wilmaan's Rust, when doctor was killed took charge of 40 wounded, and by his skill and attention much alleviated suffering and danger. An excellent officer in his own department.

CORRESPONDENCE.

LACTATION IN A BARREN GOAT.

Having seen Mr. Percival Smith's article on "Lactation in a Foal" in last week's *Record*, I am inclined to believe that such cases are of more frequent occurrence than is generally supposed.

A month ago I saw a case of lactation in a goat under peculiar circumstances. I was at that time "locum" for Mr. Fraser of St. Albans.

Whilst visiting a canine patient outside the city, my attention was drawn to a goat whose udder was uncommonly large and pendulous on one side, the dependency having an immense teat hanging almost to the ground. The animal was a barren, twelve months old, she had not had any kids or been to the buck.

I was informed that the part of the udder in question was continually increasing in size. I attempted unsuccessfully to pass a tube up the teat, so I inserted my exploring needle in the upper part of the teat, with the result that a pint or so of milk poured out.

I subsequently found in Cornwall that cases of lactation in barren mares were occasionally met with there.

Lisburn, co. Antrim. LEWIS LLOYD.
August 20th.

ADVERTISING—A QUERY.

Dear Sir,

Can you please give me your valuable opinion or any information or advice on the following.

Does the fact that a man is a M.R.C.V.S. prevent him from advertising or distributing price lists of stock medicines, *i.e.*, may a man who is a M.R.C.V.S. advertise or distribute price lists of his stock medicines without offending bye-law 113, providing that he does not in any way refer to his professional attainments, but simply uses his plain name and address. I have submitted the same inquiry to the R.C.V.S. but the Registration Committee decline to advise on the question.

Thanking you in anticipation of your kind and courteous attention—Yours truly,

"COUNTRY VET."

[If title or attainment are not mentioned we believe the Council is unable to prevent advertising, but — —

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED.—Messrs. J. L. Barling, G. Mayall, E. L. Stroud, F. Abel Bloxham, L. Lloyd, F. W. Cosgrove, H. E. Whitemore, A. E. Payne. *The Daily Telegraph*. *The Echo* (Cheltenham).